UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/986,721	11/09/2001	Naoki Kubo	0378-0385P	5854

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EXAMINER
ROSARIO, DENNIS

ART UNIT	PAPER NUMBER
2624	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

	Application No.	Applicant(s)
Office Action Summary	09/986,721	KUBO, NAOKI
	Examiner	**Art Unit**	
	Dennis Rosario	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _30 October 2007_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-6,10-13,15 and 16_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-6,10-13,15 and 16_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on _09 November 2001_ is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The amendment was received on 10/30/07. Claims 1-6,10-13,15 and 16 are

pending.

Response to Arguments

2.   Applicant's arguments on page 12, 3rd paragraph filed 10/30/07 have been fully

considered but they are not persuasive and states:

"...Johnson is a type of data compression (orthogonal transform) and NOT

the reduction of the number of bits of the image data (i.e., reduction of the

quantizing levels (depth) of the image data)..."

The examiner respectfully disagrees since Johnson does reduce the number of

bits of the image data (corresponding to "reducing the number of bits required to

represent the signal" in col. 31, lines 44,45.)

3.   Applicant's arguments with respect to claims 6,13,15 and 16 have been

considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4.   Claim 6 is objected to because of the following informalities:

Claim 6, line 10: "and the" ought to be deleted.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public
> use or on sale in this country, more than one year prior to the date of application for patent in the United
> States.

> (e) the invention was described in (1) an application for patent, published under section 122(b), by
> another filed in the United States before the invention by the applicant for patent or (2) a patent
> granted on an application for patent by another filed in the United States before the invention by the
> applicant for patent, except that an international application filed under the treaty defined in section
> 351(a) shall have the effects for purposes of this subsection of an application filed in the United States
> only if the international application designated the United States and was published under Article 21(2)
> of such treaty in the English language.

6.   Claims 1-5 and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated

by Johnson (US Patent 5,892,847 A).

Regarding claim 1, Johnson that discloses a method of processing image data

comprising the steps of:

a)   converting (via fig. 34, num. 1004) <u>first</u> image data (fig. 34,num. 1002:

IMAGE X) having <u>a first number of bits to second</u> image data (represented in fig. 34 as

"Y' ") <u>having a second number of bits, less than the first number of bits (see paragraph</u>

<u>2,above)</u>;

b)   inversely converting (fig. 34,1005) the <u>second</u> image data (said Y') <u>having</u>

<u>the second number of bits</u> to thereby output inversely converted <u>second</u> image data

(represented in fig. 34 as "X' ") having <u>the first number of bits</u>;

c)   calculating a difference (via fig. 34, num. 1010) between the <u>information</u>

<u>(represented as a " +" sign upon the input of num. 1010) represented by each of the bits of</u>

<u>the first image data</u> and the <u>information (said X') represented by each of the bits of the</u>

inversely converted <u>second</u> image data <u>and outputting (upon the output of fig. 34,num.</u>

<u>1010) the difference as first difference data (as shown in fig. 34 as num. 1012)</u>; and

d)   generating a file (upon the input of fig. 34,num. 1006 corresponding to fig.

11,numerals 214 and 160) <u>including</u> the <u>first</u> difference data (fig. 34, num. 1012 shown

twice which corresponds to fig. 11, numerals 238 and 240) <u>and a first parameter (fig. 11:</u>

<u>ID #), the first parameter identifying (via said ID # or identification number) the first</u>

<u>difference data (corresponding to either of said 238 or 240 via a matching procedure that</u>

<u>has an associated ID #) as being calculated using the first image data and the inversely</u>

<u>converted second image data (since the ID# is a compact way of representing difference</u>

<u>data), wherein each bit of image data represents a quantizing level of image data (for the</u>

<u>quantizer AVQ in fig. 11,num. 134).</u>

Regarding claim 2 see fig. 1,numerals 104 and 106.

Regarding claim 3, Johnson discloses the method in accordance with claim 1,

wherein the <u>first</u> image data (the output of fig. 9,num. 198) can be reproduced (as shown

in fig. 34,num. 1003) by adding (via fig. 34,num. 1007) the <u>first</u> difference data (fig. 10,num.

212 and represented in fig. 34 as num. 1012) to the inversely converted <u>second</u> image

data (the output of fig. 34,num. 1008).

Regarding claim 4, Johnson discloses the method in accordance with claim 1,

wherein said step of converting (fig. 9, unlabeled box between numerals 202 and 200)

comprises:

a)   the sub-step of linearly converting ("linearly quantizing" in col. 28, line 47)

<u>the first</u> number of <u>bits</u> of the <u>first</u> image data <u>to the second number of bits</u>, and

b)   said step of inversely converting comprises:

b1)   the sub-step of linearly, inversely converting ("linear dequantization"

in col. 28, lines 66,67) <u>the second</u> number of <u>bits</u> of the <u>second</u> image data <u>to the first</u>

<u>number of bits</u>.

Regarding claim 5, Johnson discloses the method in accordance with claim 1, wherein said step of converting (via fig. 9, numerals 200,198 and unlabeled box between numerals 202 and 200) comprises:

a)   the sub-step of nonlinearly converting (via fig. 9,num. 198 transforms "each 8 X 8...block" in col. 11, line 49 where the transformation of a 8 X 8 block is interpreted as a non-linear transformation. Since fig. 9,num. 198 transforms a 2-dimensional image and not a 1-dimensional image.) the first number of bits (fig. 9,num. 200) of the first image data (fig. 9,num. 190) to the second number of bits, and

said step of inversely converting (fig. 10, numerals 209 and 210) comprise:

b)   the sub-step of nonlinearly, inversely converting (fig. 10,num. 210 performs the same nonlinear transformation for the same reasons as in claim 5 a), above) the second number of bits (fig. 10,num. 254) of the second image data (fig. 10,num. 208) to the first number of bits.

Claims 10,11 and 12 are rejected the same as claims 1,4 and 5. Thus, argument similar to that presented above for claims 1,4 and 5 of a method is equally applicable to claims 10,11 and 12,respectively, of an apparatus.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 6,13,15 and 16 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Johnson (US Patent 5,892,847) in view of Yi (US Patent 6,778,187

B1).

Regarding claim 6, claim 6 is rejected the same as claim 1, above, except for the

additional limitations corresponding to claim 6, lines 16-24 which are not taught in

Johnson. However, Johnson teaches that spatial images or time domain images are

"binary" in col. 2, line 16 valued.

Yi teaches such binary valued images as indicated in column 8, lines 5-10 and

claim 6, lines 16-24 of

    a)   converting comprises:

e1)   the sub-step of reducing the first number of bits (to obtain a "bit-length

reduced value of...b1 1101" in col. 6, lines 66,67) of the first image data (represented as

"b1110 1011" in col. 6, line 57) beginning with a least significant bit (for a "right shift

operator" in col. 6, lines 60,61) and continuing (right shifting) in sequence from the least

significant bit towards higher order bits until the number of bits of the first image data

becomes equal (as indicated by said b1 1101 that is five bits which is the same as the

narrow range image data of said 5) to the second number of bits of the second image

data, and

e2)   inversely converting comprises:

e21)   the sub-step of adding ZERO bits ("appending two 0 bits" in

col. 8, line 33) to the least significant bit of the second image data (said b1 1101) until

the number(eight) of bits of the second image data becomes equal (as shown by "b1110

1100" in col. 8, line 34 and said "b1110 1011" in col. 6, line 57) to the first number

(eight) of bits of the first image data (represented as "b1110 1011" in col. 6, line 57).

It would have been obvious at the time the invention was made to one of ordinary

skill in the art to modify Johnsons spatial or time domain images that are binary valued

with Yi's binary valued images, because Yi's teaching of binary valued images "reduce

the memory and bandwidth requirements...without unduly sacrificing image quality." in

col. 1, line 67 to col. 2, line 2.

Claim 13 is rejected the same as claim 6. Thus, argument similar to that

presented above for claim 6 is equally applicable to claim 13.

Regarding claim 15, Yi of the combination teaches the method in accordance with claim 6, further comprising:

a)   the step of recording the file (as indicated in fig. 2:STORE).

Regarding claim 16, Yi of the combination teaches the method in accordance with claim 6, wherein the broad-range first image data (SOD) can be reproduced by adding (as indicated by the plus sign in fig. 3:S331) the first difference data (said difference) to the inversely converted second image data (ROD).

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis Rosario whose telephone number is (571) 272-7397. The examiner can normally be reached on 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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